



Joint Legislative Oversight Committee on Agriculture, Natural and Economic Resources

October 8, 2018

Coastal Management ENVIRONMENTAL QUALITY



NC Division of Coastal Management

NC Coastal Area Management Act (1974)

Regulatory Program

- 4 District Offices; Local Permitting Officers

Policy and Planning

- Policy development w/ CRC
- CAMA Land Use Planning
- Waterfront Access Grants
- Clean Marina Program

Coastal Reserve Program

- 10 Coastal Reserves, including NERR
- Focus on research and education



Impacts along Estuarine/Riverine Shorelines

- **Significant damage to piers, docks, bulkheads**
 - Most shoreline damages concentrated from Hyde County to Brunswick County
 - Most are eligible for CAMA Emergency General Permit
 - Authorized by DEQ Secretary Regan on Sept. 20, 2018
 - No fee and expedited review for beach bulldozing, dredging, replacement of piers, bulkheads, erosion control structures



Impacts to Transportation Infrastructure

- **NC Highway 12**
 - Hatteras Island and Ocracoke Island open to traffic following damage to dunes/roadway
- **Ferry routes:** Now running at regular schedules
- **Bridges and Roadways**
 - Anticipate need for CAMA Emergency Major Permits



Impacts along Oceanfront/Barrier Islands

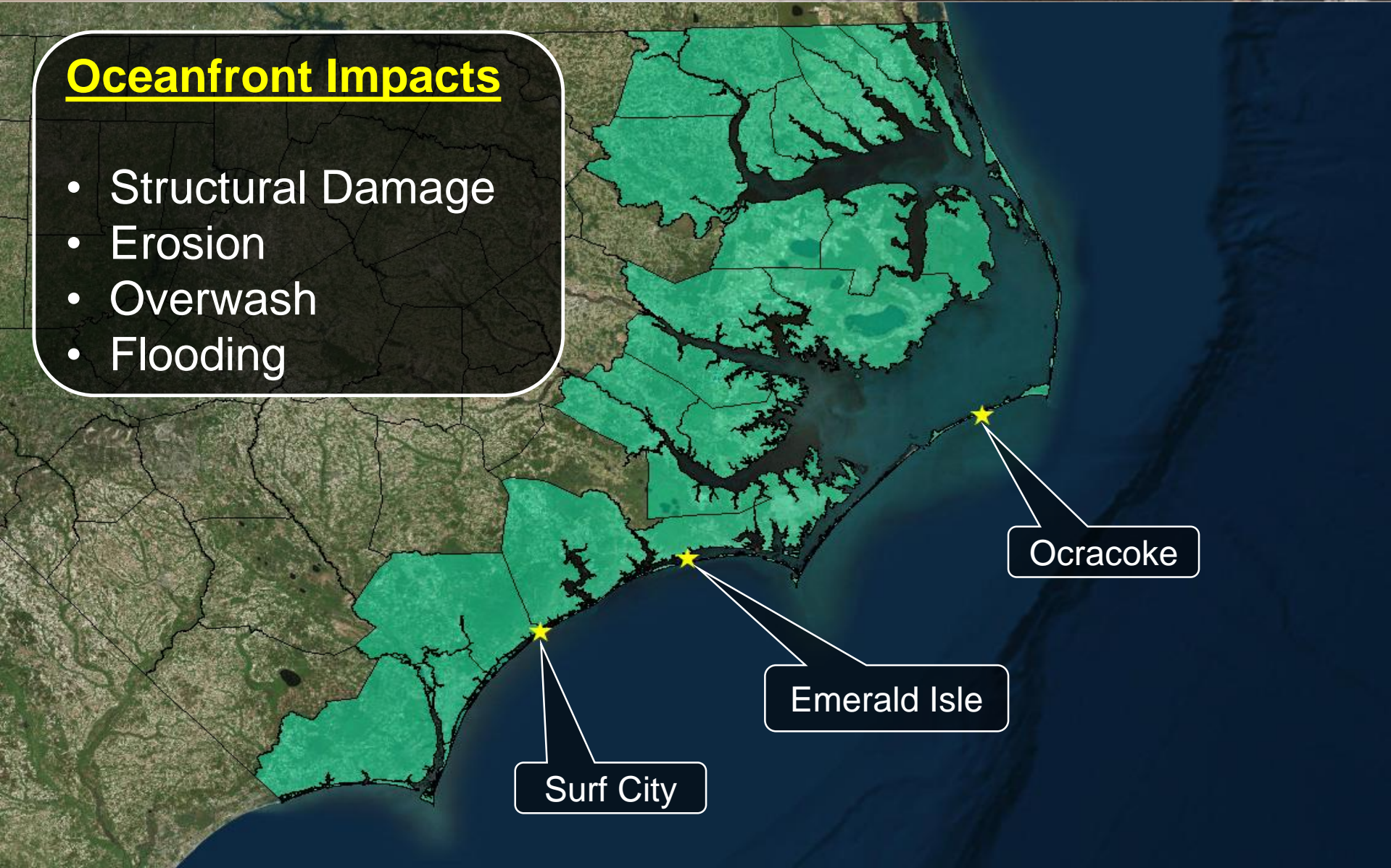
- **Significant beach and dune erosion / overwash**
 - From Ocracoke Island to Bald Head Island
- **Significant damage to ocean piers**
 - Carolina Beach, Surf City, Topsail, North Topsail, Bogue Inlet, Atlantic Beach (Oceanana)
- **Interdunal flooding** from significant precipitation



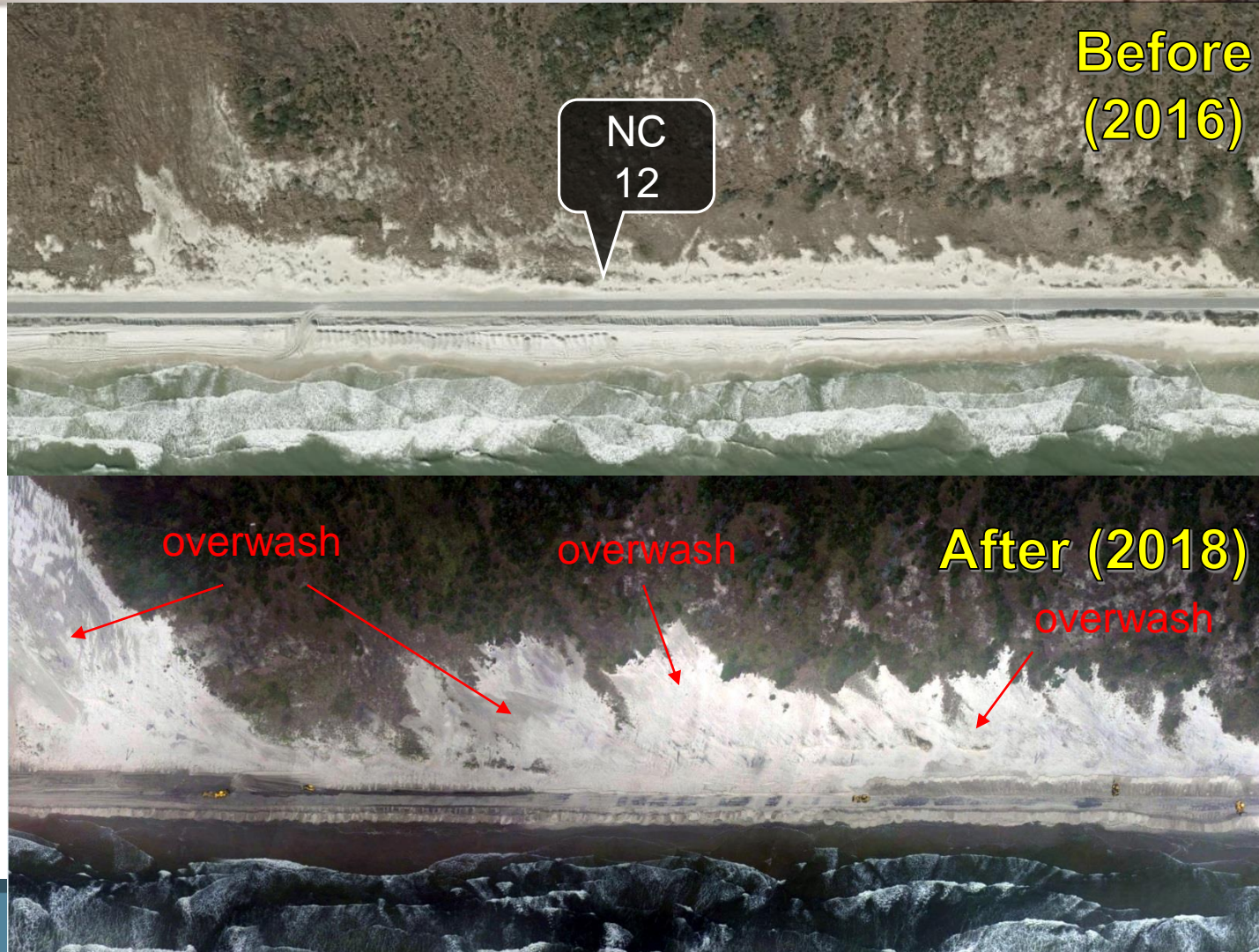
Impacts along Oceanfront/Barrier Islands

Oceanfront Impacts

- Structural Damage
- Erosion
- Overwash
- Flooding



Ocracoke Island, NC



South

North

Image Source: North Carolina, 2016

Ocracoke Island, NC



Emerald Isle, NC



Image Source: Carteret County
Shore Protection Office, 2018

Surf City, NC



Approximate dune height 9 feet prior to storm



Total loss of dune

Coordination with Local Governments



- **DCM survey - Preliminary Damage Surveys**
 - No single protocol or process for initial beach surveys
- **DCM Beach & Inlet Project Coordinator**
 - Funded in 2016 Appropriations Act
 - Improved pre- and post-storm communication and response times for larger, multi-agency projects
- **DWR survey of all 21 beach communities**
 - Identified 15 needed beach renourishment projects, 35 dredging projects, and 1 flood mitigation project
 - Very preliminary, not all tied to Florence and more time needed for formal damage assessments

Some Takeaways from Hurricane Florence



- **Areas with high dunes/wide beaches fared well**
 - Beach nourishment projects performed well
 - Too early to estimate total sand volume losses / needs
 - Significantly reduced impacts on oceanfront properties and infrastructure
- **“Living Shorelines” appear to have fared well**
 - Initially appear to have outperformed bulkheads
- **Storm surges could have been worse (~10 ft)**
 - Had forecast track held, island breaches were possible
 - However, sustained winds and multiple tidal cycles did make storm tides more damaging

Recurring coastal flooding and storm events create a need for new approaches & investments.

- 1) CAMA Planning & Management Grants
- 2) CAMA Public Access Grants
- 3) 2017 DCM Legislative Recommendations
- 4) Marine Debris Reduction Plan
- 5) Other potential opportunities



CAMA Planning and Management Grants

CRC Revised Grant Program (15A NCAC 07L)

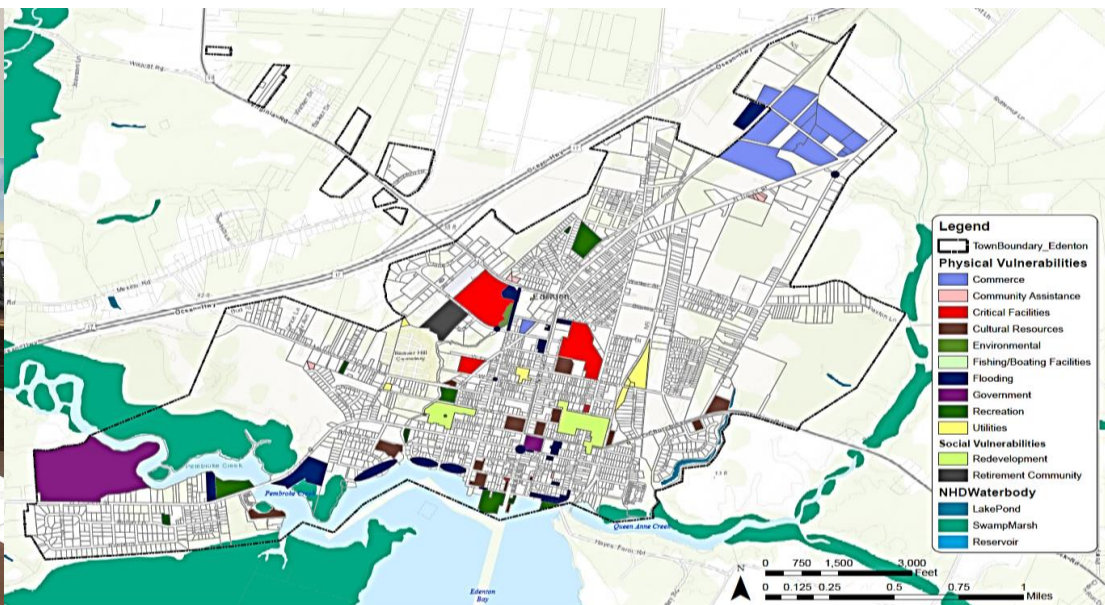
- Less emphasis on land use plan development & data acquisition
- CRC determines priority areas for funding

Funding for 2017-18 grant cycle prioritized for **Natural Hazards** and **Storm Recovery** projects:

- \$17,500 for Elizabeth City to create a plan to mitigate flooding
 - \$17,500 for Carolina Shores to produce flood mitigation manual
 - \$15,000 for Caswell Beach for study to identify & alleviate flooding
 - \$15,000 for Hyde County for watershed restoration planning
 - \$7,500 for Pender County to update policies on natural hazards
 - \$7,500 for Swansboro to update policies on natural hazards and storm recovery
- *Up to 25% local match*

CAMA Planning and Management Grants

- Targeted resilience projects such as drainage assessments, engineering studies, and other pre-construction needs related to flood mitigation and erosion control
 - Flooding models with local knowledge mapping
 - Priority land acquisition and natural infrastructure projects
- Existing legislative authority, regulatory framework, and staff
- Demand for grants exceeds available funding and staff capacity



Public Beach and Waterfront Access Program

- **Enhance Access to Beaches, Rivers, Waterfronts**
 - Since 1981, 446 sites acquired or improved with ~\$46M in matching funds to local govts
 - 5% of Parks & Recreation Trust Fund (PARTF) (\$1.4M FY2017; annual requests ~ \$2.5M)
 - Projects Range \$12,000 – \$300,000
- **Coastal Resources Commission Funding Criteria**
 - Land Acquisition, Parking, Site Improvements, Urban Waterfront Redevelopment
 - With expanded funding, local govt's could prioritize acquisition of vulnerable properties



DCM Legislative Report on Beach Erosion - 2017



- **Coordinated monitoring and analyses** to better understand sediment budgets (sediment sources, storm impacts, sediment transport)
- Encourage local/regional **beach management plans**
- **Streamline permitting** processes
- Continue to **employ construction setbacks**
- Establish **predictable funding sources** for beach & inlet projects
- **Beneficially use** beach-quality dredged material
- **Dedicated state agency staff** for technical assistance in support of beach and inlet mgmt.

Marine Debris and Abandoned Vessels



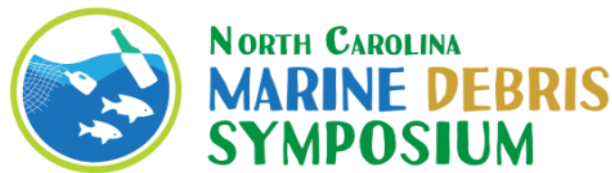
250+ vessels damaged

Initial recovery efforts led by
U.S.C.G. & NC WRC,
with support from NC DEQ



Marine Debris and Abandoned Vessels

- **Widespread lumber from docks, pilings, boardwalks**
- **Other debris, fishing gear**
 - NC Marine Debris Assessment and Reduction Plan Team
(2019 Final Plan Release)



Other Potential Opportunities

- **Marine Debris Cleanup Program**

- Funding to support marine contractors, similar to crab pot cleanup program
- Marine Debris Coordinator to manage marine debris, abandoned vessels efforts, interagency coordination

- **Living Shorelines Cost-Share Program**

- Incentivize property owners and marine contractors through C-CAP or other program



North Carolina Division of Coastal Management

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